

ABSTRACT

In a manually operated switch for cutting off direct current, a PTC 9 as a non-linear resistor is parallel connected to a contact circuit composed of a first fixed contact 5-1 and a first movable contact 4-1, via a connecting unit 3-1, a top electrode 9-1, a bottom electrode 9-2, a connecting wire 6a and a movable unit 6. Firstly, the first fixed contact 5-1 and the first movable contact 4-1 are opened. However, since the PTC 9 is parallel connected and the contact circuit forms a closed circuit, surge voltage is difficult to occur, and cutoff current flows in the PTC 9. After peak current passes by the decrease of a resistance value due to the instantaneous heating of the PTC 9, voltage returns to power supply voltage by the increase of the resistance value of the PTC 9, and then the fixed contact 5-2 and the second movable contact 4-2 are opened. Accordingly, current is completely cut off.